Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A method of scanning a specimen with an optical instrument comprising the steps of:

applying a plurality of dyes to the specimen comprising at least a first dye having a fluorescence characterized by a first spectral signal ~~which~~ when excited by a first optical signal ~~emits a first spectral array~~ and a second dye having a fluorescence characterized by a second spectral signal ~~which~~ when excited by a second optical signal ~~emits a second spectral array~~;

projecting a plurality of optical signals onto a section of the specimen, said signals comprising at least ~~a~~ the first optical signal ~~for emitting the first spectral array~~ and ~~a~~ the second optical signal ~~for emitting the second spectral array~~;

~~detecting fluorescence emitted from the section of the specimen;~~

moving the optical instrument and specimen relative to each other in a forward direction;

detecting the first spectral signal using a first sensor while deactivating at least one of the second optical signal or a second sensor so as not to detect the second spectral signal;

moving the optical instrument and specimen relative to each other in ~~and~~ a reverse direction ~~relative to each other~~; and

detecting the second spectral signal using the second sensor while deactivating at least one of the first optical signal or the first sensor so as not to detect the first spectral signal.

~~for detecting fluorescence from different sections of the specimen; and~~

~~wherein said step of detecting fluorescence is defined by detecting fluorescence corresponding to one of the spectral arrays in the forward direction and detecting fluorescence corresponding to other of the spectral arrays in the reverse direction.~~

2. (Currently amended) A method as set forth in claim 1 wherein said step of detecting ~~fluorescence~~ the first spectral signal is further defined by deactivating the second optical signal ~~projecting only one of said spectral arrays~~ in the forward direction.

3. (Currently amended) A method as set forth in ~~claim 2~~ claim 1 wherein said step of detecting ~~fluorescence~~ the second spectral signal is further defined by deactivating the first optical signal ~~projecting only one of said spectral arrays~~ in the reverse direction.

4. (Currently amended) A method as set forth in ~~claim 3~~ claim 2 wherein said step of detecting ~~fluorescence~~ the first spectral signal is further defined by scanning for only one of said spectral ~~arrays~~ signals in the forward direction.

5. (Currently amended) A method as set forth in ~~claim 4~~ claim 3 wherein said step of detecting ~~fluorescence~~ the second spectral signal is further defined by scanning for only one of said spectral ~~arrays~~ signals in the reverse direction.

6. (Previously presented) A method as set forth in claim 5 including the step of correlating successive forward scans and reverse scans for forming a computerized image of the specimen.

7. (Withdrawn) An optical instrument assembly comprising:

a transmitter for emitting an optical signal having at least a first and a second spectral array onto a specimen treated with fluorescent dyes being excitable by said first and said second spectral array for emitting optical signal with different spectral arrays from said specimen;

a detector for detecting a emitted optical signal from the specimen;

a first drive mechanism for varying the position of said optical signal on the specimen in a forward and reverse direction; and

a controller capable of terminating detection of one of said spectral arrays while varying the position of the optical signal in the forward direction and of terminating detection of

the other of said spectral arrays while varying the position of the optical signal in the reverse direction.

8. (Withdrawn) An assembly as set forth in claim 7 including a second drive mechanism for varying the position of the specimen relative to said optical signal.

9. (Withdrawn) An assembly as set forth in claim 8 wherein said transmitter includes at least a first laser for emitting said first spectral array and a second laser for emitting said second spectral array.

10. (Withdrawn) An assembly as set forth in claim 9 wherein said controller terminates power to one of said first laser and said second laser when said optical signal is moving in the forward direction and the other of said lasers when the optical signal is moving in the reverse direction.

11. (Withdrawn) An assembly as set forth in claim 10 wherein said detector includes at least a first sensor for detecting said first spectral array and a second sensor for detecting said second spectral array.

12. (Withdrawn) An assembly as set forth in claim 11 wherein said controller deactivates one of said first and said second sensors when said optical signal is moving in the forward direction and deactivates the other of said sensors when said optical signal is moving in the reverse direction.

13. (Withdrawn) An assembly as set forth in claim 12 wherein said first sensor and said second sensor are in communication with said controller for relaying to said controller detection of said first spectral array and said second spectral array emitted from the specimen.

14. (Withdrawn) An assembly as set forth in claim 13 wherein said controller correlates detection of said first spectral array with detection of said second spectral array for forming a computerized image of the specimen.